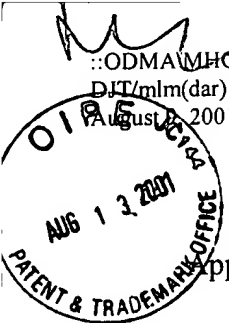IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicants: John E. Hoffmann, George Rodney Nelson, Jr.,
Daniel I. Riley, Antoine J. Rouphael, James A. Proctor, Jr.

Application No.:	09/773,253	Group:	2631
Filed:	January 31, 2001	Examiner:	N/A

For: MAXIMIZING DATA RATE BY ADJUSTING CODES
AND CODE RATES IN CDMA SYSTEM

CERTIFICATE OF MAILING

I hereby certify that this correspondence is being deposited with the United States Postal Service with sufficient postage as First Class Mail in an envelope addressed to Assistant Commissioner for Patents, Washington, D.C. 20231

on _8/10/01_   _Denise A. Rose_
      Date   Signature

Denise A. Rose
Typed or printed name of person signing certificate

TRANSMITTAL OF FORMAL DRAWINGS

Assistant Commissioner for Patents
Washington, D.C., 20231

Sir:

Transmitted herewith are formal drawings, sheets [1/7- 7/7], Figures 1 through 7, for filing in the subject patent application. Acceptance of the formal drawings is respectfully requested.

Respectfully submitted,

HAMILTON, BROOK, SMITH & REYNOLDS, P.C.

By _[signature]_

David J. Thibodeau, Jr.
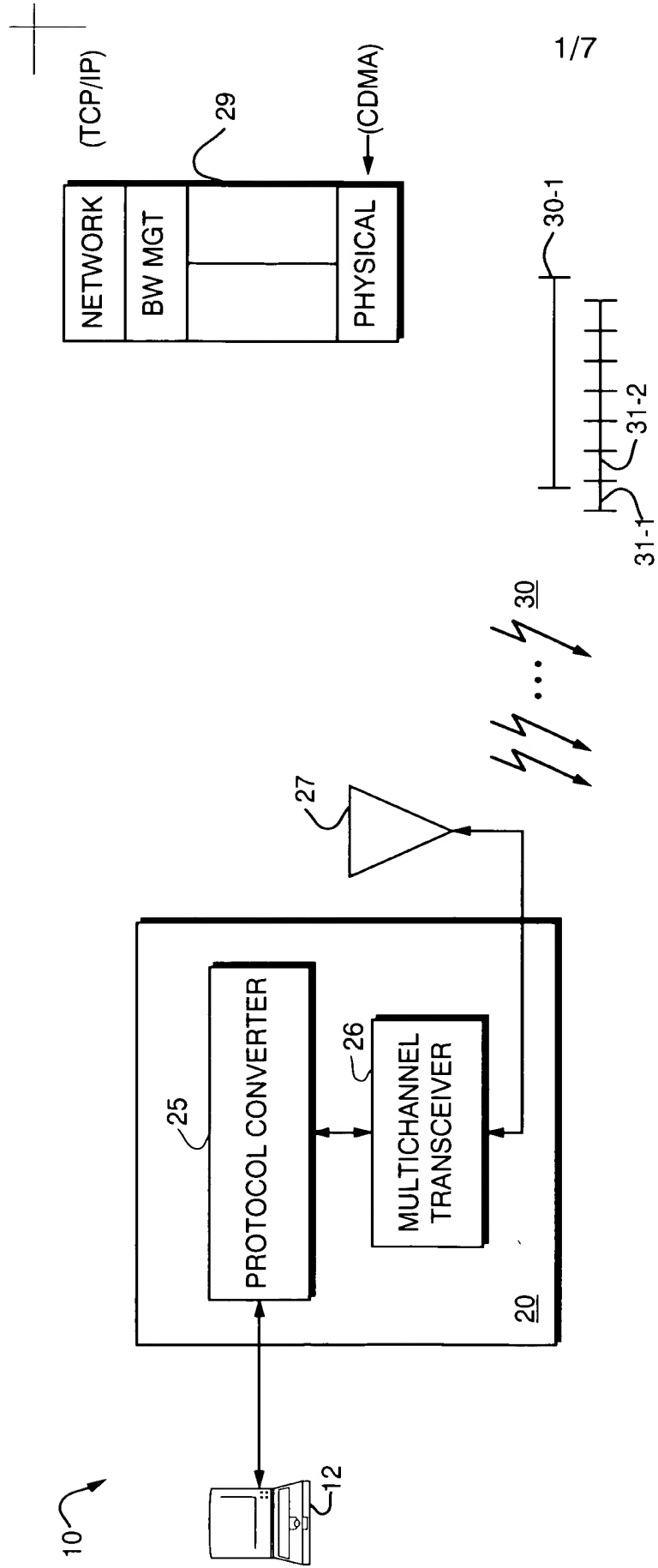Registration No. 31,671
Telephone (781) 861-6240
Facsimile (781) 861-9540

Lexington, MA 02421-4799
Date: _8/10/01_

App No.: 09/773,253
Title: Maximizing Data Rate By Adjusting...
Inventors: Hoffmann, et al.

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FIG. 1

FIG. 2

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80 — | 1480 | TCP/IP FRAME

82a — 82b —

SEGMENT 60

BLOCK ENCODER 61

83 — | 2048 | (2048 FOR 1/2-4096)

FEC ENCODER 62

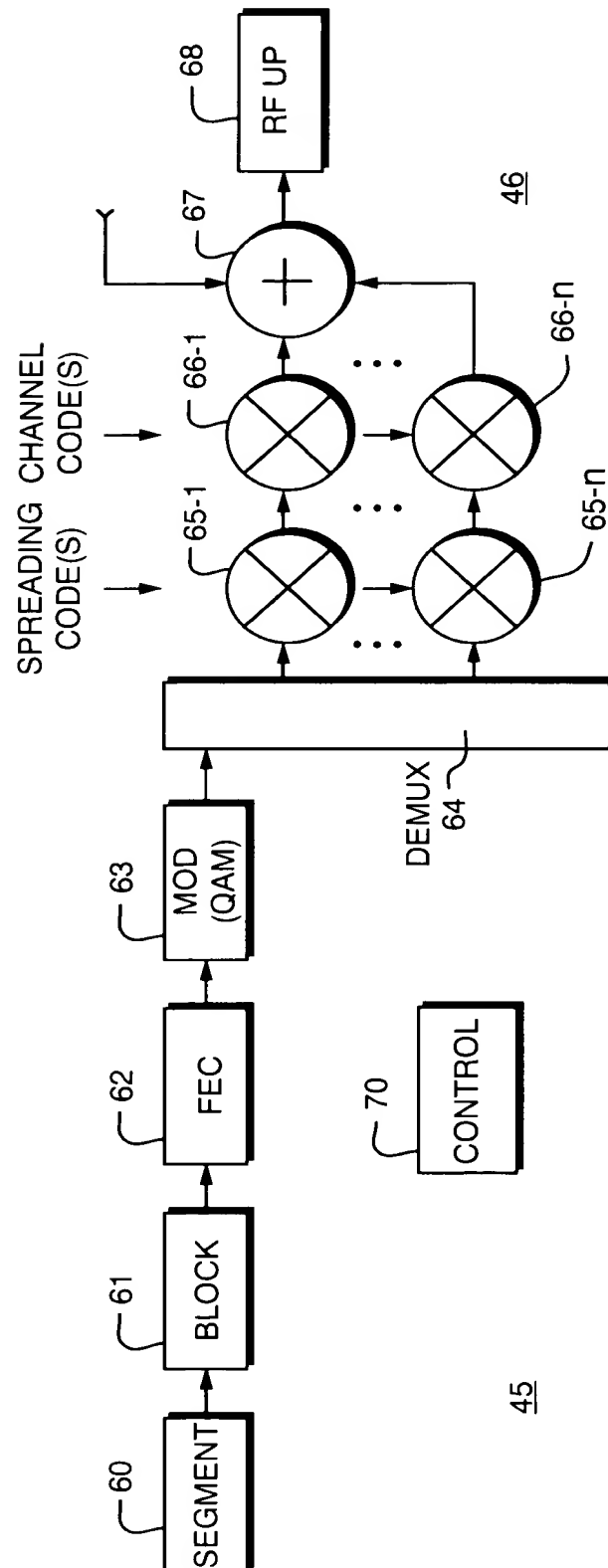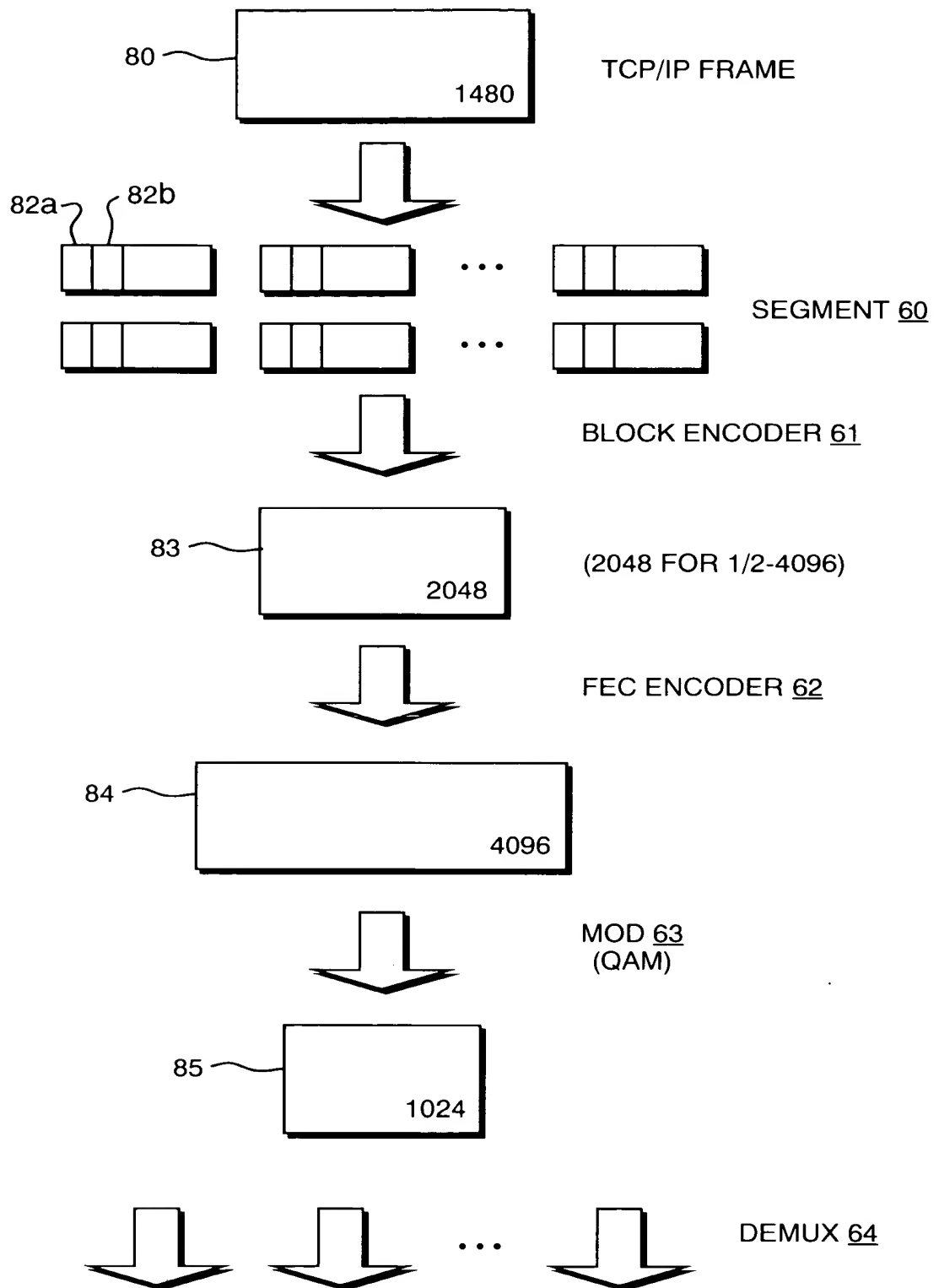84 — | 4096 |

MOD 63
(QAM)

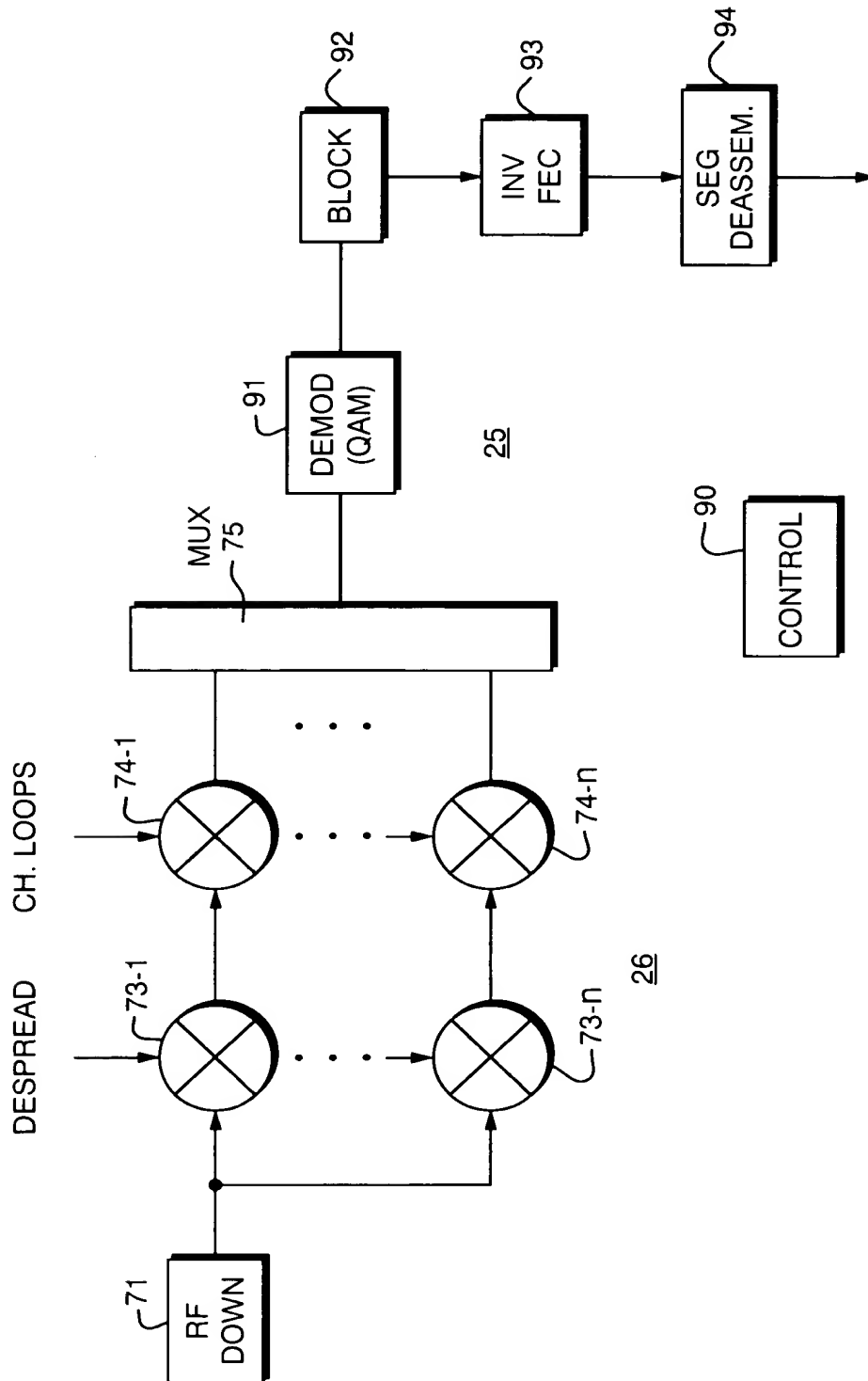85 — | 1024 |

DEMUX 64

FIG. 3

FIG. 4

MOD INFO SIZE	64 3249 4096	64 2048 4096	64 1331 4096	16 3249 4096	16 2048 4096	16 1331 4096	8 3249 4096	8 2048 4096	8 1331 4096	4 3249 4096	4 2048 4096	4 1331 4096
CHANNEL CODES												
2	0.366	0.228	0.150	0.244	0.152	0.100	0.183	0.114	0.075	0.122	0.076	0.050
4	0.731	0.456	0.299	0.487	0.304	0.200	0.366	0.228	0.150	0.244	0.152	0.100
6	1.097	0.684	0.449	0.731	0.456	0.299	0.548	0.342	0.225	0.366	0.228	0.150
8	1.462	0.913	0.599	0.975	0.608	0.399	0.731	0.456	0.299	0.487	0.304	0.200
10	1.828	1.141	0.749	1.218	0.761	0.499	0.914	0.570	0.374	0.609	0.380	0.250
12	2.193	1.369	0.898	1.462	0.913	0.599	1.097	0.684	0.449	0.731	0.456	0.299
14	2.559	1.597	1.048	1.706	1.065	0.699	1.279	0.799	0.524	0.853	0.532	0.349
16	2.924	1.825	1.198	1.949	1.217	0.799	1.462	0.913	0.599	0.975	0.608	0.399
18	3.290	2.053	1.348	2.193	1.369	0.898	1.645	1.027	0.674	1.097	0.684	0.449
20	3.655	2.282	1.497	2.437	1.521	0.998	1.828	1.141	0.749	1.218	0.761	0.499
22	4.021	2.510	1.647	2.680	1.673	1.098	2.010	1.255	0.824	1.340	0.837	0.549
24	4.386	2.738	1.797	2.924	1.825	1.198	2.193	1.369	0.898	1.462	0.913	0.599
26	4.752	2.966	1.947	3.168	1.977	1.298	2.376	1.483	0.973	1.584	0.989	0.649
28	5.117	3.194	2.096	3.411	2.129	1.398	2.559	1.597	1.048	1.706	1.065	0.699

FIG. 5

MOD TPC RATE SIZE	64 1482 2048	64 858 2048	64 684 2048	16 1482 2048	16 858 2048	16 684 2048	8 1482 2048	8 858 2048	8 684 2048	4 1482 2048	4 858 2048	4 684 2048
CODES												
2	0.333	0.193	0.154	0.222	0.129	0.103	0.167	0.097	0.077	0.111	0.064	0.051
4	0.667	0.386	0.308	0.445	0.257	0.205	0.333	0.193	0.154	0.222	0.129	0.103
6	1.000	0.579	0.462	0.667	0.386	0.308	0.500	0.290	0.231	0.333	0.193	0.154
8	1.334	0.772	0.616	0.889	0.515	0.410	0.667	0.386	0.308	0.445	0.257	0.205
10	1.667	0.965	0.770	1.112	0.644	0.513	0.834	0.483	0.385	0.556	0.322	0.257
12	2.001	1.158	0.923	1.334	0.772	0.616	1.000	0.579	0.462	0.667	0.386	0.308
14	2.334	1.351	1.077	1.556	0.901	0.718	1.167	0.676	0.539	0.778	0.450	0.359
16	2.668	1.544	1.231	1.778	1.030	0.821	1.334	0.772	0.616	0.889	0.515	0.410
18	3.001	1.737	1.385	2.001	1.158	0.923	1.501	0.869	0.693	1.000	0.579	0.462
20	3.335	1.931	1.539	2.223	1.287	1.026	1.667	0.965	0.770	1.112	0.644	0.513
22	3.668	2.124	1.693	2.445	1.416	1.129	1.834	1.062	0.846	1.223	0.708	0.564
24	4.001	2.317	1.847	2.668	1.544	1.231	2.001	1.158	0.923	1.334	0.772	0.616
26	4.335	2.510	2.001	2.890	1.673	1.334	2.167	1.255	1.000	1.445	0.837	0.667
28	4.668	2.703	2.155	3.112	1.802	1.436	2.334	1.351	1.077	1.556	0.901	0.718

FIG. 6

App No.: 09/773,253
Title: Maximizing Data Rate By Adjusting...
Inventors: Hoffmann, et al.

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MOD INFO SIZE CODES	64 676 1024	64 363 1024	16 676 1024	16 363 1024	8 676 1024	8 363 1024	4 676 1024	4 363 1024
2	0.304	0.163	0.203	0.109	0.152	0.082	0.101	0.054
4	0.608	0.327	0.406	0.218	0.304	0.163	0.203	0.109
6	0.913	0.490	0.608	0.327	0.456	0.245	0.304	0.163
8	1.217	0.653	0.811	0.436	0.608	0.327	0.406	0.218
10	1.521	0.817	1.014	0.545	0.761	0.408	0.507	0.272
12	1.825	0.980	1.217	0.653	0.913	0.490	0.608	0.327
14	2.129	1.143	1.420	0.762	1.065	0.572	0.710	0.381
16	2.434	1.307	1.622	0.871	1.217	0.653	0.811	0.436
18	2.738	1.470	1.825	0.980	1.369	0.735	0.913	0.490
20	3.042	1.634	2.028	1.089	1.521	0.817	1.014	0.545
22	3.346	1.797	2.231	1.198	1.673	0.898	1.115	0.599
24	3.650	1.960	2.434	1.307	1.825	0.980	1.217	0.653
26	3.955	2.124	2.636	1.416	1.977	1.062	1.318	0.708
28	4.259	2.287	2.839	1.525	2.129	1.143	1.420	0.762

FIG. 7